



May 15, 2019

Jacob Somers  
Somers and Associates Realtors, Inc.  
711 Gaffney Road  
Fairbanks, Alaska 99701

**RE: Decision Document: Residence – 1305 Carat Loop  
Cleanup Complete Determination**

Dear Mr. Somers:

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program has completed a review of the environmental records associated with the Residence – 1305 Carat Loop site located at 1305 Carat Loop Road, North Pole, Alaska. Based on the information provided to date, it has been determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment and no further remedial action will be required unless new information becomes available that indicates residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the Residence – 1305 Carat Loop, which is located in the ADEC office in Fairbanks, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

**Site Name and Location:**  
Residence – 1305 Carat Loop  
1305 Carat Loop Road  
North Pole, Alaska 99705

**Name and Mailing Address of Contact Party:**  
Jacob Somers  
Somers and Associates Realtors, Inc.  
711 Gaffney Road  
Fairbanks, Alaska 99701

**ADEC Site Identifiers:**  
File No.: 100.38.262  
Hazard ID.: 26432

**Regulatory Authority for Determination:**  
18 AAC 75

**Site Description and Background**

In October 2014, petroleum-contaminated soil was discovered above an underground heating oil tank during a site investigation at the residential property at 1305 Carat Loop. Diesel range organics (DRO) were confirmed in soil above ADEC cleanup levels. The release was believed to be due to overfilling of the underground tank. Initial remedial activities included removal of approximately 15 cubic yards (cy) of contaminated soil. Based on field screening, contamination appeared to remain beneath the garage, along a septic line, and near the groundwater interface.

### Contaminants of Concern

During the site characterization and cleanup activities at this site, samples were collected from soil and groundwater and analyzed for DRO, gasoline range organics (GRO), and benzene, toluene, ethylbenzene, and total xylenes (BTEX). Groundwater samples were also analyzed for volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs). Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern at this site:

- DRO

### Cleanup Levels

The approved soil cleanup levels for this site are the most stringent of the levels established in 18 AAC 75.341(d), Table B2 for the under 40 inch precipitation zone. The approved groundwater cleanup levels are established in 18 AAC 75.345 Table C.

**Table 1 – Approved Cleanup Levels**

Contaminant	Soil (mg/kg)	Groundwater (ug/L)
DRO	250	1,500

mg/kg = milligrams per kilogram

µg/L = micrograms per liter

### Characterization and Cleanup Activities

Characterization and cleanup activities conducted under the regulatory authority of the Contaminated Sites Program began in August 2015. These activities are described below.

Site characterization under 18 AAC 75.335 conducted in late May 2016 included installation of three soil borings which were finished as monitoring wells. One soil boring/monitoring well was installed within the footprint of the former excavation. No soil or groundwater samples contained contaminant concentrations above ADEC cleanup levels, although, DRO and total xylenes were detected in two groundwater samples including a sample from the monitoring well placed in the former excavation. Groundwater was determined to flow to the southeast at that time. Because the regional flow was expected to be toward the northwest, monitoring wells were not placed in a downgradient direction. To re-evaluate contaminant concentrations and groundwater flow direction, additional groundwater monitoring was completed in June 2018 from the three monitoring wells, at which time groundwater was determined to be flowing to the south-southwest; no contaminants were detected in the monitoring wells. In addition, a drinking water well was identified in the building crawlspace and was sampled in August 2018. No contaminants were detected in the drinking water well.

In May 2016, indoor air samples were also collected from the crawlspace, living room, and the garage to evaluate the potential for vapor intrusion from remaining contamination. Petroleum compounds were not observed in the indoor air samples, however, PCE was found in the living room at 460 micrograms per cubic meter (µg/m<sup>3</sup>), which exceeds the acute inhalation minimum risk level (MRL) established by the Agency for Toxic Substances and Disease Registry (ATSDR).



The source of the PCE was not known but is believed to be related to a source from inside the residence, such as use of a cleaning solvent, and is not related to the heating oil spill associated with the underground tank. Additional indoor air sampling in early June 2018 was completed to determine if PCE remained in the indoor air, but no PCE was detected.

### Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), when contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative non-carcinogenic risk standard at a hazard index of one across all exposure pathways.

Based on a review of the environmental record, ADEC has determined that residual contaminant concentrations meet the human health cumulative risk criteria for residential land use.

### Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using ADEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 2.

**Table 2 – Exposure Pathway Evaluation**

Pathway	Result	Explanation
Surface Soil Contact	De Minimis Exposure	Contamination is not expected to be present in surface soil (0 to 2 feet below ground surface) due to the excavation.
Sub-Surface Soil Contact	De Minimis Exposure	Contamination remaining in the sub-surface is not above ingestion cleanup levels.
Inhalation – Outdoor Air	De Minimis Exposure	Contamination remaining in the sub-surface is not above inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	De Minimis Exposure	Indoor air samples collected in the crawlspace, living room, and garage did not contain petroleum contaminants above ADEC's indoor air target levels.
Groundwater Ingestion	De Minimis Exposure	Contamination was not found in groundwater or the onsite drinking water well above groundwater cleanup levels.
Surface Water Ingestion	Pathway Incomplete	Surface water is not used as a drinking water source in the vicinity of the site.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminants were not observed in areas that could affect wild or farmed foods.
Exposure to Ecological Receptors	Pathway Incomplete	Contaminants were not found in areas that could affect ecological receptors.

**Notes to Table 2:** "De Minimis Exposure" means that in ADEC's judgment receptors are unlikely to be adversely affected by the minimal volume or concentration of remaining contamination. "Pathway Incomplete" means that in ADEC's judgment contamination has no potential to contact receptors. "Exposure Controlled" means there is an institutional control in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination.

**ADEC Decision**

Soil and groundwater contamination at the site have been cleaned up to concentrations below the approved cleanup levels suitable for residential land use. This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database, subject to the following standard conditions.

**Standard Conditions:**

1. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.
2. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

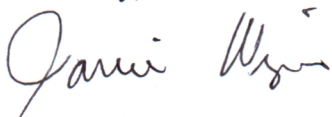
This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that contaminants at this site may pose an unacceptable risk to human health, safety or welfare, or to the environment.

**Appeal**

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, or by mail to P.O. Box 111800, Juneau, Alaska, 99811-1800, within 20 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, or by mail to P.O. Box 111800, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have questions about this closure decision, please feel free to contact me at (907) 451-2127, or email at [janice.wiegers@alaska.gov](mailto:janice.wiegers@alaska.gov).

Sincerely,



Janice Wieggers  
Environmental Program Specialist

cc (via email): Spill Prevention and Response, Cost Recovery Unit